

Amendments to the Claims

Please amend the claims as follows:

1. (Previously amended): A method of performing multiple operations on a memory device, comprising:

dividing the memory device into k partitions, wherein k is an integer greater than or equal to two;

performing code operations from m code partitions out of k total partitions, wherein m is an integer greater than or equal to one;

performing data operations from n data partitions out of k total partitions through low level functions accessed from the code partitions at approximately the same time as the code operations are performed from the m code partitions, wherein n is an integer greater than or equal to one; and

suspending the data operations of the n data partitions if a preempting operation is detected.

2. (Original): The method of claim 1, wherein the data partitions and the code partitions do not overlap each other in the memory device.

3. (Original): The method of claim 1, wherein the m code partitions and the n data partitions equal the k total partitions.

4. (Original): The method of claim 3, wherein each of the m code partitions are equal in size to each of the n data partitions.

5. (Original): The method of claim 3, wherein the m code partitions and the n data partitions are fixed in memory space.

6. (Original): The method of claim 1, wherein the memory device is a flash

memory.

7. (Original): The method of claim 6, wherein the flash memory is a flash electrically erasable read only memory (EEPROM) array.

8. (Currently amended): An apparatus comprising:

means for partitioning a memory device to a first plurality of partitions for storing code and a second plurality of partitions for storing data to enable multiple operations to be performed on the memory device at the same time; ~~and~~

means for setting each of the partitions to a status mode to track operations performed on the memory device; and

means for determining if a first requested operation has priority over a second requested operation.

9. (Original): The apparatus of claim 8, further comprising a means for saving a preempted operation before entering an interrupt routine.

10. (Previously amended): The apparatus of claim 8, further comprising a means for restoring a preempted operation following an interrupt routine.

11. (Previously amended): A memory array, comprising:

a data partition;

a code partition;

a status mode to provide a partition status from the memory array if a task request is received by the data partition, wherein if the partition status is busy, an algorithm in the code partition determines whether the task request preempts an existing task;

a read mode to enable code and data to be read from the memory array; and

a write mode to enable data to be written to the memory array.

12. (Original): The memory array of claim 11, wherein the code is programmed into the memory array.

13. (Previously amended): The memory array of claim 11, wherein the write mode enables erase operations to be performed on data stored in the memory array.

14. (Original): The memory array of claim 11, wherein the memory array is a flash memory array.

15. (Cancelled)

16. (Cancelled)

17. (Cancelled)

18. (Cancelled)

19. (Previously amended): An apparatus, comprising;

a memory device having a code partition and a data partition, wherein the code partition comprises a low level function that is performed on data stored in the data partition; and

a flag to indicate when a suspend operation has occurred.

20. (Previously amended): The apparatus of claim 19, wherein the low level function determines that a suspend operation has occurred if a requested second task of the data partition has a higher priority than a first task of the data partition.

21. (Original): The apparatus of claim 19, wherein the memory device is a flash memory.

22. (Cancelled)

23. (Cancelled)

24. (Cancelled)

25. (Previously amended): A method, comprising:

running a first operation of a first partition of a memory array;

running a first operation of a second partition of the memory array;

requesting a second operation to be performed on the second partition;

and

C₁ determining from the first operation of the first partition if the second operation of the second partition has a higher priority than the first operation of the second partition.

26. (Previously amended): The method of claim 25, further comprising:

suspending the first operation of the second partition if the second operation has a higher priority than the first operation.

27. (Previously amended): The method of claim 26, further comprising:

setting a flag to indicate that the first operation of the second partition must resume after the second operation is completed.

28. (Previously amended): The method of claim 26, further comprising:

running the second operation of the second partition.

29. (Previously amended): The method of claim 25, further comprising:

ignoring the request to perform the second operation of the second partition if the first operation has a higher priority than the second operation.

Amendments to the Brief Description of the Drawings

~~The present invention is illustrated by way of example and not limitation in the figures of the accompanying drawings, in which like references indicate similar elements and in which:~~

The following figures depict embodiments of the present invention:

FIG. 1 shows an embodiment of a flash memory with partitions;

FIG. 2 shows an embodiment of a table of possible preemption scenarios

involving low level functions;

FIG. 3 shows an embodiment of a flowchart of a low level preempting read algorithm; and

FIG. 4 shows an embodiment of a flowchart of a low level preempting write/erase algorithm.
